

THE HONORABLE ROBERT S. LASNIK

UNITED STATES DISTRICT COURT  
WESTERN DISTRICT OF WASHINGTON  
AT SEATTLE

TORREY GRAGG, on his own behalf and  
on behalf of other similarly situated persons,

Plaintiff,

v.

ORANGE CAB COMPANY, INC., a  
Washington corporation; and RIDECHARGE,  
INC., a Delaware Corporation, doing business  
as TAXI MAGIC,

Defendants.

Case No. 2:12-cv-00576-RSL

DECLARATION OF RANDALL A.  
SNYDER

I, Randall A. Snyder, hereby declare as follows:

1. My name is Randall A. Snyder. I am an adult over the age of 18 and a resident of the state of Nevada. I have personal knowledge of each of the matters stated herein, and if called to testify I could and would testify competently about them.
2. I am an independent telecommunications technology consultant and reside at 8113 Bay Pines Avenue, Las Vegas, Nevada, 89128. I have been retained by the law firm Heyrich Kalish McGuigan PLLC in the matter *Gragg v. Orange Cab Company, Inc. and RideCharge, Inc.*, 2:12-CV-00576-RSL (W.D. Wash.), to provide my expert opinions. In particular, I have been asked to provide my expert opinions relating to technology

described within the Telephone Consumer Protection Act of 1991, 47 U.S.C. § 227 (“TCPA”) and whether defendants Orange Cab Company, Inc. (“Orange Cab” or “Defendant”) and RideCharge, Inc. (“RideCharge” or “Defendant”) maintain an Automatic Telephone Dialing System (“ATDS”) as defined in the TCPA. In particular, I have been asked to determine whether the Defendants employed equipment which has the capacity to store or produce telephone numbers to be called, using a random or sequential number generator; whether the Defendants, in fact, used such equipment; whether the Defendants employed equipment which has the capacity to dial telephone numbers without human intervention; and whether the Defendants, in fact, dialed such numbers without human intervention. In addition, I have been asked to provide my expert opinions regarding the mobile marketing industry’s standards and guidelines as well as the ability to ascertain whether a particular individual is a member of the proposed class based solely upon a cellular telephone number.

3. I have personal knowledge of each of the matters stated herein, and if called to testify I could and would testify competently about them. My opinions in this declaration are based on my education, experience, training and my review of the following documents in this case: Plaintiff’s Second Amended Complaint for Injunctive Relief and Damages; Defendant Orange Cab Company, Inc.’s Answer to Second Amended Complaint for Injunctive Relief; Defendant TaxiMagic’s Answer to Second Amended Complaint for Injunctive Relief; Defendant RideCharge’s Initial Disclosures; Supplemental Responses and Objections to Plaintiff’s First Interrogatories and Requests for Production to Defendant Orange Cab; Supplemental Responses and Objections to Plaintiff’s First Interrogatories and Requests for Production to Defendant TaxiMagic; Defendant Orange

1 Cab's Responses to Plaintiff's First Set of Requests for Admission; Defendant  
2 TaxiMagic's Responses to Plaintiff's First Set of Requests for Admission; TaxiMagic's  
3 Responses and Objections to Plaintiff's Second Interrogatories and Requests for  
4 Production; Order Granting in Part Motion for Judgment on the Pleadings and Granting  
5 Leave to Amend; Order Granting in Part and Denying in Part Defendant's Motion to  
6 Dismiss, Granting Defendant's Motion to Strike, and Denying Leave to Amend;  
7 Plaintiff's Motion for Class Certification; Declaration of Torrey Gragg in Support of  
8 Motion for Class Certification; Declaration of Donald W. Heyrich in Support of  
9 Plaintiff's Motion for Class Certification (including exhibits); Deposition of Thomas  
10 DePasquale; Deposition of Tadesse Woldearegay; Deposition of Ameer Badri;  
11 MultiModem® iSMS User Guide for System Administrators (Bates Nos. TM005272 –  
12 TM005367); equipment list for MultiModem® iSMS deployed products (Bates Nos.  
13 TM005368); Telephone Consumer Protection Act, 47 U.S.C. § 227, *et seq.* ("TCPA")  
14 and regulations promulgated thereunder; the FCC's Report and Order in the Matter of  
15 Rules and Regulations Implementing the Telephone Consumer Protection Act of 1991  
16 dated January 4<sup>th</sup>, 2008; Appeal from the United States District Court for the Northern  
17 District of California, No. 07-16356, D.C. No. CV-06-02893-CW Opinion, filed June  
18 19<sup>th</sup>, 2009; the FCC's Report and Order in the Matter of Rules and Regulations  
19 Implementing the Telephone Consumer Protection Act of 1991 dated February 15<sup>th</sup>,  
20 2012; and the FCC's Declaratory Ruling In the Matter of The Petition Filed by DISH  
21 Network, LLC for Declaratory Ruling Concerning the Telephone Consumer Protection  
22 Act (TCPA) Rules dated May 9<sup>th</sup>, 2013.  
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- 1 4. I have over 25 years of experience in telecommunications network and system  
2 architecture, engineering, design and technology. I consider myself to be an expert in the  
3 fields of both wireline and wireless telecommunications networking technology. A copy  
4 of my *curriculum vitae* is attached to this declaration. I have been retained as a testifying  
5 or consulting expert in 57 cases regarding telecommunications technology including 39  
6 cases regarding Short Message Service (SMS) technology and 30 cases regarding the  
7 TCPA and associated regulations. In addition, I have been retained by both plaintiffs and  
8 defendants in cases regarding the TCPA.  
9
- 10 5. I have taught many classes and seminars on both wireline and wireless  
11 telecommunication network technologies and have been a panelist and speaker at  
12 numerous conferences at the Institute of Electrical and Electronics Engineers (IEEE), the  
13 Personal Communication Society (PCS), and the Cellular Telecommunications and  
14 Internet Association (CTIA) as an expert in telecommunication networks. I spent seven  
15 years developing standards within the American National Standards Institute's subsidiary  
16 organization, the Telecommunications Industry Association (TIA), providing technical  
17 contributions and authoring and editing telecommunications proposed standards  
18 documents. Most notably, I authored and oversaw the standardization of Interim Standard  
19 93, providing interconnection technology between wireline and wireless networks, which  
20 is a fully accredited national standard of the American National Standards Institute  
21 (ANSI). I am the co-author of the McGraw-Hill books "Mobile Telecommunications  
22 Networking with IS-41," and "Wireless Telecommunications Networking with ANSI-41,  
23 2nd edition" published in 1997 and 2001, respectively. These books have sold several  
24 thousand copies and were required reading for wireless engineers at AT&T Wireless and  
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1 Motorola for several years. The latter book has also been relied upon and cited numerous  
2 times as a reference for various patents in the telecommunications industry. I have been  
3 issued 11 patents myself on telecommunications networking technology and currently  
4 have seven additional published patents pending. I have also authored several articles on  
5 telecommunications technology and have been quoted numerous times in industry trade  
6 publications. I have consulted for and been employed by many wireline and wireless  
7 telecommunications companies including McCaw Cellular, AirTouch, AT&T Wireless,  
8 AT&T Mobility, Lucent, Nokia, Ericsson, Nextwave, MCI, Sprint and other  
9 telecommunications technology vendors and service providers. I was also nominated in  
10 2006 for a National Television Arts Emmy Award for Outstanding Achievement in  
11 Advanced Media Technology for unique wireless content distribution technology I  
12 designed while employed at Entriq, Inc. In addition, in 2002, I was co-founder of m-  
13 Qube, Inc., one of the first text message based mobile marketing companies in N.  
14 America. m-Qube founded and established the Mobile Marketing Association  
15 (<http://www.mmaglobal.com>), the global trade organization which subsequently  
16 established authoritative best practices, guidelines and codes of conduct for organizations  
17 using mobile technology to communicate with consumers. I have been issued four patents  
18 on Short Message Service (“SMS”) technology and my books have been cited in four  
19 additional issued patents on SMS technology. Still more detail as well as details of  
20 publications that I have authored or co-authored within at least the past 10 years are  
21 provided in my *curriculum vitae* (attached as Exhibit A) along with a list of cases where I  
22 served as a testifying or consulting expert (attached as Exhibit B) and my standard rate  
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1 sheet (attached as Exhibit C). I am being compensated at the rate of \$400 per hour for my  
2 study, analysis and testimony in this case.

### 3 INTRODUCTION

4 6. The TCPA prohibits unsolicited voice and text calls to cellular telephone numbers using  
5 an “automatic telephone dialing system” (“ATDS”), which the statute defines as

6 “equipment which has the capacity – (i) to store or produce telephone numbers to be  
7 called, using a random or sequential number generator; and (ii) to dial such numbers.”

8 Additionally, it is my understanding that the FCC has issued further regulations that also  
9 define an ATDS as including the capacity to automatically dial telephone numbers that  
10 are stored electronically.

11  
12 7. Based on my review of the relevant documents and the facts described above, it is my  
13 opinion is that Defendants employed technology that used an ATDS. My opinion is based  
14 on the fact that Defendants employed technology that uses an ATDS and used that  
15 technology, as defined in the TCPA and accompanying FCC regulations, with the  
16 intention of communicating with cellular telephone subscribers without obtaining those  
17 subscribers’ explicit and express consent to do so. The text messages sent to the Plaintiff  
18 and the members of the proposed class were sent using equipment which has the capacity  
19 to store or produce telephone numbers to be called, using a random or sequential number  
20 generator, or to be called from numbers that are electronically stored, and that the  
21 equipment had the capacity to dial such numbers without human intervention as defined  
22 by the TCPA. In other words, the equipment used to send the text messages at issue in  
23 this case constituted an ATDS.  
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1 8. Furthermore, it is my opinion that the Defendants violated the TCPA as the Plaintiff  
2 neither explicitly nor expressly “opted-in” to receive text messages from the mobile text  
3 message application program operated by the Defendants. The Plaintiff subsequently  
4 received unwanted mobile text messages from the Defendants’ ATDS that he did not  
5 provide consent for and incurred charges for those mobile text messages. I base these  
6 opinions on my training, experience, expertise and on the evidence described below.  
7

### 8 **BACKGROUND**

9 9. The use of Short Message Service (“SMS”), more commonly known as “text messaging”  
10 in the U.S., has become ever-present. According to the Cellular Telecommunications and  
11 Internet Association (“CTIA”), as of December, 2012 there were 326.4 million cellular  
12 telephone subscriptions in the U.S. and more than 171.3 billion text messages sent each  
13 month (see <http://www.ctia.org/advocacy/research/index.cfm/aid/10323>).  
14

15 10. Short Message Service (“SMS”), more commonly known as “text messaging,” is a  
16 communications system and method designed to enable an individual cellular telephone  
17 subscriber to send or originate a short text message communication (typically no more  
18 than 160 characters) from his or her cellular telephone to another individual subscriber’s  
19 cellular telephone that is the intended destination of the message, i.e., the message  
20 recipient. SMS text messages are sent individually from one subscriber to another using a  
21 cellular telephone number as the destination address of the message. The message  
22 sender’s cellular telephone number is preserved as part of the message at the destination  
23 cellular telephone where the message is received so that the message recipient knows the  
24 cellular telephone number of the message sender.  
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1 11. Over the past several years many companies have emerged that provide what is known as  
2 value-added text messaging services using SMS technology. These companies are  
3 technically referred to as Value Added Service Providers (“VASPs”) and many of them  
4 are external entities to the cellular network operators. These VASPs provide a variety of  
5 text messaging services (i.e., SMS) that are not strictly peer-to-peer in the sense of  
6 subscriber-to-subscriber manual communications; rather, they are companies that use  
7 automated computer equipment to send and receive text messages using SMS to and from  
8 individual cellular telephone subscribers. Based on my review of the materials in this  
9 case, RideCharge is a VASP providing automated text message application programs  
10 using the product name “TaxiMagic.”  
11

12 12. VASPs are typically in the business of creating and operating text message-based  
13 applications on behalf of themselves, branded or marketing companies that desire to  
14 develop and maintain some personalized communication with cellular telephone  
15 subscribers for commercial purposes. The automated computer equipment that these  
16 VASPs employ is used for a variety of text messaging applications, marketing campaigns  
17 and dialogs to communicate with cellular subscribers. Common applications are voting  
18 (the most popular example being the text message voting used to vote for contestants on  
19 the American Idol television program) as well as receiving mobile coupons, sports scores,  
20 advertisements, news and informative alerts where short messages are sent to cellular  
21 subscribers.  
22

23 13. Moreover, these VASPs employ equipment that has the ability to send any number of text  
24 messages *en masse* to cellular telephone subscribers as well as receive individual text  
25 messages from those subscribers. Messages sent from the branded company to a cellular  
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subscriber are termed “mobile-terminated” (“MT”) and messages sent from a cellular subscriber to a branded company are termed “mobile-originated” (“MO”).

14. VASPs can connect to the cellular carrier networks to communicate with cellular subscribers in two distinct ways: (i) using specialized computer equipment that acts as a cellular telephone, known as a cellular modem; and (ii) using internet-based connections and communications protocols.

15. VASPs can use cellular modems to connect to the wireless networks using standard cellular radio frequencies and protocols. These cellular modems require a Subscriber Identity Module (“SIM” card) to be inserted to activate an account on a wireless network similar to most mobile phones today. A unique SIM card represents a unique subscription to a wireless network operator, such as AT&T Mobility, and is uniquely identified by a real 10-digit dialable cellular telephone number. Cellular modems perform in a manner just like as a typical cellular subscriber, except that they are not truly “mobile” and are designed to communicate with the wireless network on one side and computer equipment on the other. In this way, the cellular modem is designed to automate, using computer equipment, the cellular communications functions that might be performed by a typical cellular subscriber.

16. Based on my review of the relevant documents, the MultiModem iSMS (“iSMS”) computer product is a cellular modem specially designed for SMS-based text message communications. That is, it is computer equipment that enables a programmable application (such as an automated dispatch system used by taxi cab companies) to send automated standard SMS text messages to cellular subscribers and receive individual SMS text messages from them. Since the iSMS cellular modem is a cellular

1 telecommunications device communicating with other cellular subscribers directly via the  
2 wireless networks, it has the ability to send text messages to any cellular subscriber  
3 regardless of which network serves those subscribers – just like a regular mobile phone.

4 And, according to the MultiMode iSMS User Guide for System Administrators, the iSMS  
5 computerized cellular modem product “can be used to send a large number of SMS  
6 messages very quickly” *en masse* to large numbers of cellular telephone subscribers.

7  
8 17. According to the MultiMode iSMS User Guide for System Administrators, the iSMS  
9 product employed by RideCharge can support a capacity of four megabytes (4 MB)  
10 worth of outgoing mobile text messages to be sent at a rate of 10 messages per minute.  
11 The iSMS equipment electronically stores cellular telephone numbers of subscribers for  
12 outgoing MT text messages. There are two ways in which cellular telephone numbers can  
13 be stored into the iSMS modem equipment. Cellular telephone numbers can be  
14 individually and manually entered into the iSMS modem for storage or large lists of  
15 cellular telephone numbers can be electronically imported into the iSMS modem for  
16 storage. The latter method is a much more expeditious and effective means for  
17 provisioning cellular telephone numbers to be called *en masse* using the computerized  
18 modem equipment.  
19

20 18. VASPs can also connect to the wireless networks using internet-based connections and  
21 communications protocols. The primary protocol used is known as the Short Message  
22 Peer-to-Peer (“SMPP”) protocol. SMPP is a standard internet-based communications  
23 protocol specifically designed for communications between a VASP and a cellular  
24 network’s Short Message Service Center (“SMSC”). SMSCs are network entities that are  
25 maintained and controlled within the wireless carriers’ networks and are the store and  
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1 forward repositories for text messages to be both delivered to and sent from mobile  
2 subscribers.

3 19. In many cases, VASPs do not connect directly to the wireless carrier networks (e.g.,  
4 AT&T Mobility). Establishing and maintaining direct connections to individual wireless  
5 carrier networks is expensive, time consuming and technically difficult. Because of  
6 business and technical barriers, VASPs can connect indirectly to the wireless carrier  
7 networks through intermediary companies known as “SMS aggregators.” These SMS  
8 aggregators are in the business of connecting to multiple wireless carrier networks and  
9 reselling that connectivity to VASPs.  
10

11 20. Aggregation of multiple wireless carrier network connections into a single connection to  
12 a VASP is highly advantageous to the VASP. First, it enables a VASP to provide SMS-  
13 based applications to subscribers quickly and easily. And second, it enables the VASP to  
14 make applications available to all cellular subscribers in the U.S. at once, regardless of  
15 which wireless carrier serves them. And third, SMS aggregators may assist in the  
16 application approval process with the wireless carriers as well as ensuring that access to  
17 the VASPs SMS applications are provisioned on all the wireless carrier networks.  
18

19 21. VASPs’ connections to the SMS aggregators are Internet connections and typically use a  
20 special number as the address by which cellular text messages are sent and received in  
21 order to communicate with cellular subscribers. This number is known as a “short code.”  
22 A short code is a special and unique 5- or 6-digit number that is obtained from an  
23 independent agency, Neustar, Inc., that manages and assigns these number resources in  
24 the United States on behalf of the cellular network operators.  
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1 22. Individual short code numbers are leased by the VASPs, or the SMS aggregators on  
2 behalf of the VASPs, for which a mobile text message application is to be run. The  
3 VASPs or SMS aggregators then subsequently request that these numbers be provisioned  
4 (i.e., programmatically stored) by the wireless network operators so that MO messages  
5 can be properly sent from cellular subscribers to the correct VASP platform applications.  
6 In this case, the wireless network operators always approve the service application that  
7 uses an individual short code before it is provisioned in their networks. The process  
8 requires that the VASP or SMS aggregator draft and submit a detailed written description  
9 of the text message service application that uses the short code. The detailed description  
10 always contains the actual text content of all messages that are to be sent to and received  
11 from cellular subscribers, the precise “opt-in” method to be used by cellular telephone  
12 subscribers, the number of cellular telephone subscribers expected to be involved in the  
13 application communication, when the application program will start and end, the method  
14 by which cellular subscribers can “opt-out” of the text message application along with  
15 many other details.  
16

17  
18 23. Over the past few years, many VASPs have appeared that provide cellular text messaging  
19 applications using “long codes” or “long numbers.” A long code is an actual dialable  
20 cellular telephone number that cellular subscribers can use as the address for which to  
21 send MO text messages for a particular text messaging application or program. The long  
22 code used appears to a cellular telephone subscriber as just another cellular telephone  
23 number belonging to someone. In this way, a cellular telephone subscriber can engage in  
24 a text messaging application with the owner of the long code, e.g. a VASP, just as they  
25 would engage a friend using typical peer-to-peer text messaging. Conversely, MT text  
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1 messages can be sent from the VASP, or an individual, who owns the long code number  
2 to cellular subscribers, making the sender of the message appear to the recipient as just  
3 another cellular subscriber. SMS aggregators can provide long code numbers or a VASP  
4 or their clients can use any cellular telephone number that belongs to them as the long  
5 code.

6 24. Unfortunately, the SMS aggregators that enable use of a long code on behalf of a VASP  
7 wishing to create and operate a mobile text messaging application or program, can be  
8 exposed to abuse of their platform. These SMS aggregators typically provide a software-  
9 based application programming interface (“API”) that can be used by their VASP clients  
10 to develop a software application and connect to their message delivery platform for that  
11 application. This enables the client VASPs to create their own text messaging  
12 applications, create the content in the body of the text messages and send the messages  
13 via the SMS aggregator’s platform. These types of applications require no explicit  
14 approval nor any oversight from the wireless network operators before they are invoked  
15 and run. Furthermore, a software application using the API of the SMS aggregator can be  
16 created to send out cellular text messages *en masse* to a stored list of obtained cellular  
17 telephone numbers.  
18

19 25. RideCharge, as a VASP, integrated the iSMS cellular modem product into their overall  
20 computerized solution to provide automated text message applications to their client  
21 customers. And, in fact, RideCharge deployed as many as 38 iSMS cellular modems in  
22 their data center to communicate directly with cellular telephone subscribers.  
23

24 26. RideCharge, as a VASP, also integrated with the services of Twilio, Inc. (“Twilio”) (see  
25 <https://www.twilio.com/sms>) as their SMS aggregator to maintain commercial  
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relationships with cellular subscribers regardless of which wireless carrier serves those subscribers.

27. Twilio enables RideCharge to send large numbers of text messages *en masse* to cellular subscribers using long code addresses as the originating address of the text messages. Conversely, Twilio enables individual subscribers to reply to received text messages using long code addresses as the destination address of the message for subsequent delivery to RideCharge's automated mobile text message application.

28. RideCharge integrates their system with automated taxi cab dispatch system applications enabling them to send SMS-based text messages *en masse* to cellular telephone subscribers. According to Mr. DePasquale, CEO of RideCharge, in his deposition, RideCharge originally sent automated text messages on behalf of their client customers to cellular subscribers via the MultiMode iSMS cellular modem product and currently sends automated text messages to cellular subscribers via Twilio as an SMS aggregator.

#### **OPT-IN AND CONSENT**

29. "Opting-in" is a term that describes any method by which a cellular subscriber explicitly and expressly provides individual consent to inform the VASP that they are willing to receive mobile text messages for a specific text message application or program.

Generally, consent is not broadly given for multiple text message applications nor is it given in some "open-ended" fashion (i.e., without limitation) such that a subscriber can "opt-in" to receive any and all text message traffic from a particular VASP.

30. There are many methods by which a cellular telephone subscriber can "opt-in." One common method is a text message response by the cellular subscriber to the VASP based upon some sort of "call to action." For a given application or text message program, this

1 “call to action” can be a commercial advertisement from a website, television, radio,  
2 newspaper, magazine, billboard, etc. For instance, the actual “call to action” is usually a  
3 read or heard message indicating that the cellular subscriber can send a text message to a  
4 particular numeric address (either a short code or a long code) along with a keyword or  
5 words that make up the body of the message. The cellular subscriber uses this MO text  
6 message that is sent to the VASP to “opt-in” to the desired application service (such as to  
7 receive informative text alerts).

8  
9 31. Another common method to “opt-in” is by a cellular subscriber providing some  
10 indication of willingness to receive MT text messages from the VASP by filling in a web-  
11 based form on a desktop, mobile Internet website or via a mobile application. This is  
12 typically the case when the crux of a specific text message application or campaign is  
13 based on the VASP sending out an MT text message first, to initiate the application,  
14 campaign or dialog with the cellular subscriber.

15  
16 32. There are two reasons why explicit and formal “opt-in” techniques are used for  
17 automated commercial text messaging applications and programs: (i) to enable cellular  
18 telephone subscribers to reliably provide explicit and express consent for a particular text  
19 message program; and (ii) to inform the VASP that they are willing to incur appropriate  
20 text messaging charges for that program.

## 21 **THE MOBILE MARKETING ASSOCIATION (“MMA”)**

22  
23 33. The MMA is the primary global trade organization that promulgates codes of conduct,  
24 best practices and guidelines for the mobile marketing industry. The mobile marketing  
25 industry includes branded companies, companies that provide mobile content, VASPs  
26 and wireless network operators. The MMA provides the only authoritative global  
27

1 specifications for the proper practices and guidelines for organizations who wish to  
2 communicate with cellular subscribers via text messaging

3 34. The MMA publishes a well-know specification, U.S. Consumer Best Practices for  
4 Messaging (available at: <http://www.mmaglobal.com/bestpractice>), to guide companies  
5 that wish to market their products and services via cellular channels. This specification  
6 includes comprehensive guidelines prescribing all appropriate methods that companies  
7 need to follow to design, implement and deploy proper mobile text message applications  
8 and programs. These guidelines include the always required methods for cellular  
9 subscribers to unambiguously and unmistakably consent to receiving text messages by  
10 “opting-in” in a variety of ways as well as enabling these subscribers to always “opt-out”  
11 of receiving text messages at any time.  
12

13 35. Mr. DePasquale admitted in his deposition that Mr. Jay McClary, vice president of  
14 marketing for RideCharge had raised an issue regarding the MMA and their guidelines  
15 for best practices. That issue regarded the fact that RideCharge sends initial dispatch  
16 notification text messages to cellular telephone subscribers (i.e. users) without a user  
17 “opting-in” to receive such messages, which is “not quite in line with MMA guidelines.”  
18

19 36. It is clearly apparent that RideCharge was aware of the MMA’s best practices and  
20 guidelines specification requiring express “opt-in” consent by cellular subscribers before  
21 sending them unsolicited and unwanted text messages, yet they continued to send these  
22 text messages to unsuspecting cellular subscribers.  
23

24 **DEFENDANTS MAINTAIN AN ATDS AS DEFINED WITHIN THE TCPA**

25 37. RideCharge is a company that owns the “TaxiMagic” mobile application and provides  
26 mobile text messaging services to taxi users.  
27



1 38. Based upon my experience, expertise, and the materials reviewed, RideCharge is a VASP  
2 that operates an automated computer system providing SMS-based applications enabling  
3 text message communications with customers of taxi cab companies who are cellular  
4 telephone subscribers. The computerized applications that RideCharge provides are used  
5 to form a commercial relationship with cellular subscribers and to use the cellular  
6 networks and text messaging technology to form that relationship. RideCharge sent  
7 mobile-terminated text messages to cellular telephone subscribers who called Orange  
8 Cab.  
9

10 39. Furthermore, I can confidently and definitively state that RideCharge operates and  
11 maintains an Automatic Telephone dialing System ("ATDS") as defined in the TCPA and  
12 accompanying regulations. RideCharge is a VASP providing automated mobile text  
13 message application services using long code numeric addresses that are specially  
14 provisioned in the mobile operators' networks. RideCharge admits to sending an average  
15 of one thousand text messages per day to cellular subscribers who called Orange Cab. It  
16 is indisputable that automated computer equipment must be used to send and process  
17 such massive quantities of mobile text messages.  
18

19 40. Moreover, for RideCharge to provide their automated mobile text message applications,  
20 they must obtain and store cellular telephone numbers in order to send text messages *en*  
21 *masse* to cellular telephone subscribers.  
22

23 41. According to Mr. Tadesse Woldearegaye, Dispatch Manager for Orange Cab, in his  
24 deposition, when a customer makes a voice telephone call to Orange Cab to order a taxi,  
25 "...the dispatcher enters contact name, contact telephone number, everything of the  
26  
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customer” into the dispatch system. The dispatcher can obtain the cellular telephone number of the taxi customer either verbally or via caller ID.

42. RideCharge uses the cellular telephone numbers obtained from Orange cab customers to send mobile-terminated (“MT”) text messages containing marketing content. Therefore, RideCharge’s equipment clearly has the capacity to store telephone numbers to be called. And, in fact, not only does it have this capacity, it actually performs this function. In addition, the FCC has held that prohibitions under the TCPA apply to stored lists of telephone numbers as well as random or sequentially generated numbers. In fact, it is my understanding that The United States Court for the Ninth Circuit quoted my name and expert report in the case of *Satterfield v. Simon & Schuster, Inc.* that “[t]he use of stored numbers, randomly generated numbers or sequentially generated numbers used to automatically originate calls is a technical difference without a perceived distinction...” (*Satterfield v. Simon & Schuster, Inc. No. 07-16356, D.C. No. CV-06-02893-CW Opinion*, June 19<sup>th</sup>, 2009, p. 7338). Moreover, the FCC has held that prohibitions under the TCPA apply to stored lists of telephone numbers as well as random or sequentially generated numbers (*Rules and Regulations Implementing the Telephone Consumer Protection Act of 1991, CG Docket No. 02-278, January 4<sup>th</sup>, 2008*).

43. Additionally, The United States Court for the Ninth Circuit held that in the *Satterfield* decision, “[t]he cellular phone numbers residing in the cellular phone number database for the specific application are applied in sequence, as they are stored in the database, to serve as the destination cellular phone number for each individual text message. Each text message is then put into a text message queue and egresses the platform sequentially...” Furthermore, The United States Court for the Ninth Circuit held that text message calls

1 are, in fact, calls as defined in the TCPA. The FCC has also held that prohibitions under  
2 the TCPA apply equally to both voice and SMS calls to cellular telephone numbers  
3 (*Rules and Regulations Implementing the Telephone Consumer Protection Act of 1991*,  
4 *CG Docket No. 02-278*, February 15<sup>th</sup>, 2012).

5 44. Finally, RideCharge does, in fact, dial (or call) those cellular telephone numbers from the  
6 stored list.

7 45. Therefore, RideCharge, as a VASP operates equipment which has the capacity (i) to store  
8 telephone numbers to be called, using a random or sequential number generator [or from  
9 a stored list of numbers]; and (ii) to dial such numbers. This fulfills the definition of an  
10 ATDS as defined in the TCPA, accompanying FCC regulations and judicial rulings.

11 46. RideCharge created, operated and executed a text messaging application program. The  
12 concept of this application program is to enable both Orange Cab and RideCharge to  
13 market RideCharge's TaxiMagic application service to cellular telephone subscribers.  
14 Taxi cab customers make a traditional telephone voice call to Orange Cab to order a taxi.  
15 Orange Cab then records the telephone numbers of these customers and RideCharge  
16 sends unsolicited text messages to their cellular telephones.  
17

18 47. In addition, Mr. Woldearegaye admitted in his deposition that Orange Cab selectively  
19 turned off the sending of unsolicited text messages (i.e. dispatch notifications) to  
20 customers due to complaints, an example of which was that "...an account customer  
21 called us up and they received a text message. So they don't want to receive a text  
22 message. So we don't want to lose that large account so I think we turned off that."  
23  
24 Furthermore, Mr. Woldearegaye admitted that a client customer of Orange Cab's, known  
25  
26  
27

1 as Hopelink, complained about the unsolicited text messages being sent since "...the text  
2 messages were costing low income clients money each time they received one."

3 48. On Sunday, February 26<sup>th</sup>, 2012, at about 9:04 p.m. the Plaintiff received an unsolicited  
4 text message from the telephone number (571) 309-5286. The text message was an  
5 advertisement for RideCharge's TaxiMagic product. Although the Plaintiff made a voice  
6 call to order a taxi from Orange Cab the previous day, there is no evidence to suggest that  
7 he either "opted-in" or otherwise expressly consented to receive text messages from  
8 Orange Cab or RideCharge. Furthermore, the unsolicited text message received by the  
9 Plaintiff provided no means of "opting-out" of receiving additional unwanted text  
10 messages from RideCharge as clearly explained in the MMA's Consumer Best Practices  
11 specification.  
12

13 49. Mr. DePasquale admitted in his deposition that dispatch notification text messages  
14 containing marketing content are sent to nonusers of the TaxiMagic application service.  
15 The marketing content included in the text messages typically contains a link to  
16 download the TaxiMagic mobile application. Mr. DePasquale also admitted that  
17 RideCharge's client customers can have a list of text messages sent to a list of cellular  
18 telephone numbers. And, in fact, the default configuration of RideCharge's system  
19 includes automatically rotating the marketing content of the messages to be sent *en masse*  
20 to cellular subscribers to maintain their attention. Mr. DePasquale estimated that Orange  
21 Cab sent "probably a thousand" dispatch notification text messages on an average day.  
22

23 50. Based on my education, training and experience, it is clear that the MT text message sent  
24 to the Plaintiff was a text message that was automatically and programmatically sent by  
25 RideCharge. Although the text message content had some personalized information along  
26  
27

1 with a concatenated marketing advertisement, it is clearly designed as a pre-programmed  
2 text message that makes use of temporary parameters to populate the message content to  
3 be sent to cellular subscribers that call Orange Cab to order a taxi. The cellular telephone  
4 number of the Plaintiff was stored on RideCharge's automated computer equipment  
5 enabling them to send an unsolicited and unwanted text message to him.

6 51. In order to automatically and programmatically send these text messages to cellular  
7 telephone subscribers, the RideCharge application must store cellular telephone numbers  
8 obtained from Orange Cab customers as the destination addresses of the MT text  
9 messages. The cellular telephone numbers stored are used by the RideCharge application  
10 to communicate with cellular telephone subscribers *en masse*. RideCharge automatically,  
11 and without human intervention, sends MT text messages to cellular telephone  
12 subscribers who have not "opted-in" nor consented to receive such messages.  
13

#### 14 **ASCERTAINABILITY**

15 52. Based on my experience and expertise, it is my expert opinion that the proposed members  
16 of the class in this case can be definitively and clearly ascertained based solely on their  
17 cellular telephone numbers. The Defendants obtain and store cellular telephone numbers  
18 via the mobile text message program process and to send text messages to cellular  
19 telephone subscribers as previously described. The process to ascertain and identify the  
20 class members solely from their cellular telephone numbers is a straightforward and  
21 highly effective administrative process.  
22

23 53. It is my understanding that there may be tens or hundreds of thousands of cellular  
24 subscribers who were called by the Defendants either by directly connecting to the  
25  
26  
27

1 wireless networks via the MultiMode iSMS product or indirectly connecting to the  
2 wireless networks via Twilio as an SMS aggregator.

3 54. Mr. Woldearegaye admitted in his deposition that the dispatch system used by Orange  
4 Cab maintains a database of telephone numbers for customers that have called for a taxi.  
5 Mr. Woldearegaye also admitted that this database can be queried for unique telephone  
6 numbers over a period of time.

7  
8 55. Some portion of the Defendants' stored telephone numbers may be wireline numbers and  
9 not cellular telephone numbers. Third-party service organizations exist, such as Contact  
10 Center Compliance (see <http://www.DNC.com>), that provide a service to quickly analyze  
11 any size list of telephone numbers and filter out those numbers that are cellular telephone  
12 numbers. Results of such an analysis would immediately reveal which of the telephone  
13 numbers produced by the Defendants are wireline telephone numbers and which are  
14 cellular telephone numbers. In addition, the telecommunications carrier servicing a  
15 particular telephone number can also be ascertained. Contact Center Compliance  
16 maintains a daily updated and complete database of all telephone numbers and associated  
17 carriers used in North America. This database is provided and regularly updated by  
18 Neustar, Inc. Contact Center Compliance has maintained this database, including daily  
19 updates since 2007.

20  
21 56. The MultiMode iSMS product records detailed statistics and log records for all SMS text  
22 messages sent to cellular telephone subscribers. According to the MultiMode iSMS User  
23 Guide for System Administrators, administrators of the product have the ability, via a  
24 simple website interface, to "...list the SMS text messages sent. The list includes the  
25 receiver's number, the message sent, and a timestamp."  
26

1 57. Twilio, as an SMS aggregator, records, maintains and stores detailed information about  
2 all of the text messages sent and received on behalf of a particular client, such as  
3 RideCharge. These records are known as message detail records (“MDRs”) or call detail  
4 records (“CDRs”). The detailed record information includes all cellular telephone  
5 numbers to which text messages are sent as well as all cellular telephone numbers from  
6 which text messages are received. In addition, and for each text message sent and  
7 received, the SMS aggregators record the date and time each text message is sent or  
8 received as well as the textual content of each message sent or received.  
9

10 58. All wireless telecommunications carriers record, maintain and store detailed information  
11 about all of their subscribers. This information includes similar CDRs and MDRs (albeit  
12 without the textual content of each message), bill copies, payment history, subscriber  
13 identities and the time period when each subscriber used a particular cellular telephone  
14 number.  
15

16 59. All of this detailed and recorded text message information for each subscriber can be  
17 obtained and produced by Twilio via subpoena for each text message sent or received by  
18 RideCharge. The provided data will include the cellular telephone number of each  
19 subscriber in each and every message as the identifying piece of data for the class. Since  
20 the SMS aggregators maintain and store the textual content of each message sent and  
21 received, and MDRs can be obtained in a searchable and sortable format such as a text  
22 file or spreadsheet or text file, it is a straightforward administrative procedure to  
23 determine which cellular subscribers have been affected. Based upon the text file or  
24 spreadsheet, a brief filtering process and examination of the results can reveal those  
25 unique cellular telephone numbers who are members of the proposed class during the  
26  
27

1 class period. Moreover, for each unique cellular telephone number revealed, the text  
2 message content provided for each message can be searched and further filtered for a  
3 particular string of characters, such as the link to download the TaxiMagic application  
4 identified by “http://” as a portion of the message.

5 60. Furthermore, the wireless carriers can be subpoenaed to provide identifying subscriber  
6 information for the unique cellular telephone numbers obtained from Twilio and the  
7 MultiModem iSMS cellular modem product.

8 61. According to ComScore® in their 2012 Mobile Future in Focus industry report (see  
9 [http://www.comscore.com/Insights/Presentations\\_and\\_Whitepapers/2012/2012\\_Mobile\\_](http://www.comscore.com/Insights/Presentations_and_Whitepapers/2012/2012_Mobile_Future_in_Focus)  
10 [Future\\_in\\_Focus](http://www.comscore.com/Insights/Presentations_and_Whitepapers/2012/2012_Mobile_Future_in_Focus)), the top eight wireless carriers maintained approximately 97%  
11 subscriber market share.

12 62. All wireless carriers, and potentially others, can be subpoenaed to produce subscriber  
13 identifying information, such as name, address and other information, based solely on the  
14 provided cellular telephone number for a particular subscriber.

15 63. Furthermore, telephone number portability and wireless carrier churn rates are unlikely to  
16 effect the ability to ascertain and identify the proposed class members. “Churn rate” is the  
17 term used to measure the proportion of mobile subscribers that leave a particular wireless  
18 carrier. Wireless churn is identified as a monthly percentage of a wireless carrier’s overall  
19 subscriber base. The entire wireless industry experiences an average of just under 2%  
20 churn per month. It is a straightforward process to determine the wireless carrier serving  
21 each cellular telephone number in a list. In fact, Orange Cab, RideCharge and/or Twilio  
22 must maintain this capability in order to send text messages to subscribers. Text messages  
23 must be sent to the appropriate wireless carrier network serving a particular cellular  
24  
25  
26  
27



1 telephone number representing a cellular subscriber. If, under subpoena, it appears that a  
2 particular cellular telephone number sent to a wireless carrier today was not being served  
3 by that same carrier at the time a text message was received from RideCharge, that  
4 cellular telephone number can be provided to each of the other wireless carriers to  
5 determine which one was serving that number at the time a text message was received.  
6 One of those carriers must have serviced that number when it received a message and that  
7 particular carrier can provide any appropriate identifying information about the individual  
8 subscriber.  
9

10 64. In addition, there exists commercially available third-party information service  
11 companies that collect and maintain subscriber data on behalf of the wireless carriers.  
12 These companies maintain comprehensive and extensive databases that identify  
13 subscribers based solely on their cellular telephone numbers. As an example, Neustar®  
14 Information Services provides such a service.  
15

16 65. Class members can be effectively ascertained and identified based solely on their cellular  
17 telephone numbers. The wireless carriers can provide the appropriate subscriber  
18 identifying data under subpoena or a third-party provider such as Neustar Information  
19 Services can supply the appropriate subscriber data. In either case, these methods are  
20 straightforward administrative processes and are highly reliable.  
21

## 22 SUMMARY

23 66. In summary, it is my opinion that RideCharge utilized an automated text messaging  
24 application in its capacity as a Value Added Service Provider (VASP). According to the  
25 Telephone Consumer Protection Act, 47 U.S.C. § 227 – Restrictions on use of telephone  
26 equipment, the term “automatic telephone dialing system” means equipment which has  
27

1 the capacity to: store or produce telephone numbers to be called, using a random or  
2 sequential number generator; and to dial such numbers. Moreover, RideCharge maintains  
3 and operates the TaxiMagic mobile text message application using equipment which has  
4 the capacity to store or produce telephone numbers to be called, from a list or database of  
5 numbers or using a random or sequential number generator and dials these numbers  
6 without human intervention. As such, RideCharge employed and operated an Automatic  
7 Telephone Dialing System (ATDS) as defined in the TCPA and accompanying FCC rules  
8 and regulations.  
9

10 67. Furthermore, it is apparent that RideCharge was aware of the best practices and  
11 guidelines promulgated by the Mobile Marketing Association regarding the requirements  
12 to obtain express “opt-in” consent from cellular subscribers prior to sending them mobile-  
13 terminated text messages.

14 68. Moreover, the process to ascertain and identify the class members solely from their  
15 cellular telephone numbers is a straightforward administrative process that is highly  
16 effective and reliable.  
17

18 69. My opinions in this declaration are based upon extensive experience in the  
19 telecommunications industry, a detailed understanding of telecommunications systems, a  
20 detailed understanding of Short Message Service (“SMS”) technology and a detailed  
21 understanding of mobile marketing employing SMS technology. I hereby reserve the  
22 right to supplement or modify my opinions detailed in this report to the extent that new  
23 information is made available through discovery or other means.  
24

25 70. I declare that the foregoing is true and correct subject to the laws of perjury of the United  
26 States.  
27

Executed in Las Vegas, Nevada, on this 8<sup>th</sup> day of July, 2013.

*Randall A. Snyder*

Randall A. Snyder

EXHIBIT A

## Randall A. Snyder Curriculum Vitae

### Professional Summary

Randall Snyder is a recognized expert in wireless and cellular telecommunications technology, executive manager and leader, designing, developing, marketing and managing mobile telecommunication system and software products. He has over 25 years of experience specializing in wireless telecommunications technology, network architecture, design, system engineering, marketing and product management. He is a reputable leader and strategic developer with a successful background building startups. He is skilled presenter, communicator, and educator with success impacting organizational performance, corporate reputation and increasing sales. Mr. Snyder is results-oriented, highly organized and creatively focused on adhering to organizational missions and philosophy while designing best-of-breed mobile technology solutions. He has extensive travel experience to Asia-Pac, Latin America and Europe supporting engineering, sales and marketing with familiarity with wireless network operators and manufacturers worldwide. Mr. Snyder has several years of wireless standards development with extensive travel throughout Asia-Pac, Latin America and Europe.

### Expertise

- Business Relations: Seminars, Sales Presentations and Sales Engineering
- Legal: Provisional and Patent Applications, Subject Matter Expert Consultant, Expert Witness and Testimony, Litigation Support, Sales and Vendor Contract Negotiations and Review, Qualified as an Expert in Federal District Court
- Management: Strategic/Tactical Planning, Product Management, Marketing Management, Operations Management, Competitive Analysis, Problem Resolution, Project Planning, Risk Management
- Organizational: P&L Management, Budget Planning, Expense Reduction and Cost Control
- Technology: Wireless Network Engineering, Design and Architecture, Multimedia Systems, Mobile Internet, Mobile Video, Mobile Marketing, mCommerce and Mobile Payments, Mobile Telecommunications Standards, 3G, UMTS, LTE, LBS, SMS, MMS, WAP, GSM, and ANSI-41 (CDMA) Networking, Signaling System No. 7 (SS7), Communications Protocols, Telephone Consumer Protection Act (TCPA), Automatic Telephone Dialing Systems (ATDS)

### Education

<u>Year</u>	<u>College or University</u>	<u>Degree</u>
1984	Franklin and Marshall College	B.A., Mathematics (minor in Astronomy)

### Professional Experience

**Randall A. Snyder**  
**Curriculum Vitae**

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From: January 2007  
To: Present  
Organization: Wireless Research Services, LLC; Las Vegas, NV  
Title: President and Founder  
Summary: Responsible for consulting business, and revenue as well as being the principal consultant. Areas of subject matter expertise include mobile and cellular networking, 3G, LTE, UMTS, GSM, ANSI-41, LBS, SMS, MMS, WAP, SS7, Diameter Signaling, Automatic Telephone Dialing Systems (ATDS) and mobile multimedia systems. With this expertise, primary consulting is in the area of system and product architecture, design, development, management and marketing as well as patent preparation and development, expert reports, expert testimony and litigation support. Expert witness and technology consultant for over 50 legal cases; authored over 40 expert reports for intellectual property cases, Telephone Consumer Protection Act (TCPA) cases and wireless technology litigation cases.

Notable Case:

- Personally cited by United States Court of Appeals for the Ninth Circuit. Satterfield v. Simon & Schuster, Inc. No. 07-16356, D.C. No. CV-06-02893-CW Opinion. Appeal from the United States District Court for the Northern District of California. Opinion by N.R. Smith, Circuit Judge. Filed June 19, 2009.

Result of expert opinion greatly expanded the TCPA and was followed by formal FCC Declaratory Rulings that text messages are calls as defined by the TCPA and a stored electronic list of telephone numbers falls within the definition of an Automatic Telephone Dialing System (ATDS).

From: September 2007  
To: August 2010  
Organization: Finsphere Corporation; Bellevue, WA  
Title: Vice President Product Management & Wireless Engineering  
Summary: Was among the first handful of employees at Finsphere prior to Series A funding. As vice president of product management and wireless engineering and a member of the executive management team, was responsible for product management activities and wireless technology solutions for Finsphere's products. These products encompassed mobile location based software-as-a-service (SaaS) products offered primarily to financial institutions and banks. Responsibilities included product requirements and system functionality, strategic planning, R&D of new technologies, wireless network interconnectivity as well as wireless technology for Finsphere's products. Was also responsible for market strategies, white papers and development and management of intellectual property and patent applications.

From: May 2004

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<b>Randall A. Snyder</b> <b>Curriculum Vitae</b>
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To: April 2007  
 Organization: Entriq, Inc.; Carlsbad, CA  
 Title: Vice President Product Management  
 Summary: Was responsible for the entire product management team and system architecture for Entriq's products and services. Products encompassed mobile and broadband pay media applications (specializing in video), digital rights management (DRM) and security solutions, e-commerce and m-commerce systems as well as ad management and delivery solutions for both broadband and mobile media services. Responsibilities also included network and protocol analysis, market analysis, evaluation of third-party software and services, all vendor contract negotiations, RFP responses and overall administrative responsibility for the entire product line. Was responsible for directing and managing the technical writing department producing all user documentation associated with the products. Was nominated for a National Television Arts and Sciences Emmy Award for Outstanding Achievement in Advanced Media Technology for unique mobile technology designed, developed and commercially deployed as part of Entriq's solution.

From: February 2002  
 To: November 2003  
 Organization: m-Qube, Inc. (acquired by Verisign); Boston, MA  
 Title: Vice President Product Management and Carrier Marketing  
 Summary: Was responsible for the entire product management and carrier marketing teams, member of the executive management team and one of the founders. Was responsible for all product management, system engineering and product strategy for all business conducted with the wireless industry and carriers. Was in charge of the market strategy and wireless network architecture for m-Qube's mobile marketing service, a value-added service offering mobile marketing solutions to wireless carriers using short message services (SMS) for GSM and CDMA networks. The service architecture enabled branded companies to deploy promotional marketing and messaging campaign dialogs with mobile subscribers via SMS. The network architecture required definition and design of all aspects of the overall network including SMS technology, interconnectivity to the wireless carriers, signaling, traffic management, market requirements for features and services, network equipment specifications and OA&M.

From: April 2001  
 To: February 2002  
 Organization: Bitfone Corporation; Mountain View, CA  
 Title: Vice President Product Management and Marketing  
 Summary: Was responsible for the entire product management team and all of the company's product definitions, strategies and positioning. Had direct responsibility for market and product requirements, market research, competitive analysis, product strategy and sales strategy. Bitfone's products included the iBroker, a mobile Internet technology infrastructure platform to enhance WAP, MMS, mobile e-mail and wireless messaging. Was also responsible for the mProve product (obtained via merger with Digital Transit, Inc.) providing over-the-air firmware and software update technology

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**Randall A. Snyder**  
**Curriculum Vitae**

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to mobile devices.

From: November 2000  
To: April 2001  
Organization: Openwave Systems (via merger of Phone.com and Software.com); Redwood City, CA  
Title: Executive Director Emerging Technologies  
Summary: Was responsible for new 3G technologies and providing market and product plans for those technologies for the entire product line. Primary responsibility for the 3GPP Multimedia Messaging Service (MMS), collecting market requirements from customers, developing corporate strategy for MMS and preparing the organization for additional development of the product. In addition, taught wireless technology classes to the different departments at Openwave and educated them on wireless service provider strategies and network technologies.

From: March 2000  
To: November 2000  
Organization: @Mobile and Software.com (via acquisition); Santa Barbara, CA  
Title: Director Wireless Product Management  
Summary: Was responsible for the product managers and for all of the wireless internet infrastructure products. Responsibilities included the overall market and product strategy for Software.com's wireless e-mail, short message service, instant messaging and unified messaging products. Was responsible for the overall revenues generated from these products based on detailed product plans and internal organizational planning. Much of his time was spent working with the executive management team and the sales directors on corporate market strategy.

From: December 1999  
To: March 2000  
Organization: FreeSpace Communications, Inc.; Palo Alto, CA  
Title: Consulting Network Systems Engineer  
Summary: Was responsible for the complete design of the backbone network architecture for a new broadband fixed wireless data network. This new architecture incorporated DSL as the backbone network technology. The network architecture required definition and design of all aspects of the overall network plan including DSL technology, IP technology, ATM technology, interconnectivity to the PSTN, operations signaling, traffic engineering, market requirements for network features and services, network equipment specifications and OA&M.

From: 1992  
To: 1999  
Organization: Synacom Technology, Inc.; San Jose, CA  
Title: Executive Director Product Marketing and Management  
Summary:

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**Randall A. Snyder**  
**Curriculum Vitae**

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- |             |   |
|-------------|---|
| 1998 – 1999 | <p>Executive Director Product Marketing and Management</p> <ul style="list-style-type: none"><li>▪ Responsible for managing the entire product management and marketing department of Synacom Technology, including market research and planning, product management and market communications. Lead the entire design, definition and product direction of all aspects of Synacom's products.</li></ul>  |
| 1997 – 1998 | <p>Director Systems Engineering</p> <ul style="list-style-type: none"><li>▪ Responsible for coordinating and managing the overall functional and requirements specifications for all Synacom's products as well as the detailed test plans used for alpha system testing of those products. Also responsible for directing and managing the technical writing department producing all of the user documentation associated with all of the products. Provided the primary sales engineering support for sales and marketing and was involved in nearly every aspect of the product lifecycle.</li></ul>  |
| 1996 – 1997 | <p>Director Consulting Services and Principal Engineer</p> <ul style="list-style-type: none"><li>▪ Responsible for obtaining, coordinating and managing all technical consulting projects performed by the company. These projects included wireless network architecture and design for both IS-41 and GSM networks for dozens of client companies (carriers and equipment manufacturers). In this role, continued as a member of both the ANSI/TIA TR45.2 Subcommittee for cellular radio intersystem operations standards and the ANSI/TIA TR46 Committee for 1900 MHz GSM PCS standards. Major contributor to TR46 in the area of GSM-to-IS-41 network interworking. Also authored, edited and published TIA standard specification IS-93 for cellular network interconnections to the PSTN and ISDN.</li></ul>   |
| 1992 – 1996 | <p>Principal Engineer</p> <ul style="list-style-type: none"><li>▪ Consulted for McCaw Cellular, AT&amp;T Wireless, AirTouch Cellular, AirTouch Satellite Services, Globalstar, Nokia, MCI, Sprint PCS, XYPoint, NextWave, NewNet American Personal Communications, CTIA and several other national and international wireless telecommunications companies.</li><li>▪ Wrote wireless network design and analysis papers including HLR specifications, Authentication Center specifications, PCS network design, short message service (SMS) design, intelligent network applications of wireless technology and in-house expert in signaling protocols. Extensive experience with Signaling System No. 7, including both protocol implementation and design. Authored the Standard Requirements Document for the SS7-based A-interface between the base station and MSC used throughout the TIA. Also involved in the design of the Bellcore WACS/PACS technology, digital cellular network service and feature descriptions, SCPs and HLRs. Extensive experience developing the architecture and design of distributed intelligent networks including, SS7, cellular, PCS, AIN and WIN networks. Key member of the original Cellular Digital Packet Data (CDPD) architecture and design team. Designed the CDPD air interface protocol emulator developed and marketed by AirLink Communications, Inc.</li></ul> |
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**Randall A. Snyder**  
**Curriculum Vitae**

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From: December 1990  
To: April 1992  
Organization: AT&T Bell Laboratories; Whippany, NJ  
Title: Consulting Member of the Technical Staff  
Summary: Evaluated wireless technology services for the Wireless Systems Architecture group. Also participated as a system engineer on the design of the Global System for Mobile (GSM) communication architecture and a software engineer developing the base station controller (BSC) for GSM. Also responsible for planning, coordinating, designing and testing the SS7 protocol software for the GSM A-interface between the BSC, MSC and operations and maintenance center (OMC). High-level and detailed design specifications were developed to coordinate the protocol testing between two remote laboratories. Provided the traffic analysis and traffic engineering of call traffic for the BSC. Specifically designed and developed the dynamic traffic overload control subsystem for the BSC. Presentations were given to technical staffs at multiple Bell Laboratories facilities supporting this work.

From: May 1987  
To: December 1990  
Organization: DGM&S, Inc.; Mt. Laurel, NJ  
Title: Senior Staff Consultant  
Summary: Responsible for the design, development and test coordination of an advanced intelligent network applications platform for a service control point (SCP). Also spent several years as a consulting software engineer for Siemens AG, developing and testing SS7 and call control software for the EWSD digital switching system for international as well as U.S. national network implementations. This work involved extensive travel to both Frankfurt and Munich, Germany for software system design and testing. Also involved in the concept, design and technical marketing of proprietary enabling technology software products for SS7 and ISDN.

From: May 1986  
To: May 1987  
Organization: ADP, Inc.; Mt. Laurel, NJ  
Title: Senior Software Engineer and Analyst  
Summary: Responsible for the design and development of data communications and real time database application software for a host data center that provided real time financial information to large brokerage houses. Data communication protocol expertise in HDLC, RS-232 and IBM BiSync.

From: June 1984  
To: May 1986  
Organization: C3, Inc.; Cape May, NJ

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## Randall A. Snyder Curriculum Vitae

**Title:** Consulting Systems Analyst and Software Engineer

**Summary:** As a civilian consulting systems analyst and engineer to the U.S. Coast Guard Electronics Engineering Center (EECEN) for C3, Inc., developed sophisticated database software for shipboard use including inventory and law enforcement applications. The work included the follow-through of the entire project lifecycle including writing of requirements, functional, design and program specifications, coding, debugging, alpha and beta testing, release, shipboard installation and continuing technical support of the product. Received a personal commendation from Admiral W.F. Merlin, Chief, Office of Command, Control and Communications, for successful efforts on these projects.

### Professional Affiliations, Achievements & Awards

- Member, Mobile Multimedia Institute
- Nominated, Technology and Engineering Emmy Award for Outstanding Achievement in Advanced Media Technology in 2006

### Patents & Publications

#### Issued Patents

<u>Patent</u>	<u>Date</u>	<u>Description</u>
US 8,374,634	02/12/2013	System and Method for Automated Analysis Comparing a Wireless Device Location with Another Geographic Location
US 8,280,348	10/02/2012	System and Method for Identity Protection Using Mobile Device Signaling Network Derived Location Pattern Recognition
US 8,155,677	04/10/2012	Mobile Messaging Short Code Translation and Routing System and Method
New Zealand 580499	08/31/2012	System and Method for Automated Analysis Comparing a Wireless Device Location with Another Geographic Location
US 8,131,262	03/06/2010	System and Method to Initiate a Mobile Data Communication Utilizing a Trigger System
US 8,116,731	02/14/2012	System and Method for Mobile Identity Protection of a User of Multiple Computer Applications, Networks or Devices
Australia 2008/115299	02/09/2012	System and Method for Automated Analysis Comparing a Wireless Device Location with Another Geographic Location
S. Africa 2009/06947	01/26/2011	System and Method for Automated Analysis Comparing a Wireless Device Location with Another Geographic Location
US 7,792,518	09/07/2010	System and Method to Initiate a Mobile Data Communication Utilizing a Trigger System
US 7,403,788	07/22/2008	System and Method to Initiate a Mobile Data Communication

<b>Randall A. Snyder</b> <b>Curriculum Vitae</b>
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		Utilizing a Trigger System
US 6,128,389	10/03/2000	Authentication Key Management System and Method
US 5,970,144	10/19/1999	Secure Authentication-Key Management System and Method for Mobile Communications
US 5,850,445	12/15/1998	Authentication Key Management System and Method
US 5,799,084	08/25/1998	System and Method for Authenticating Cellular Telephonic Communication

### Published Patents Pending

<u>Patent Application</u>	<u>Date</u>	<u>Description</u>
20110202407	08/18/2011	System and Method for Improving Internet Search Results Using Telecommunications Data
20110154447	06/23/2011	Systems and Methods for Authenticating a User of a Computer Application, Network or Device Using a Wireless Device
20100041380	02/18/2010	System and Method for Determining and Delivering Appropriate Multimedia Content to Data Communication Devices
20090204815	08/13/2009	System and Method for Wireless Device Based User Authentication
20080119210	05/22/2008	Wireless Messaging Address System and Method
20080114884	05/15/2008	Centralized Mobile and Wireless Messaging Opt-Out Registry System and Method
20060224943	10/05/2006	Method and System to Automatically Publish Media Assets

### Publications

1. What Workers Want from Wireless by Randall A. Snyder; April 15, 2004. America's Network, Advanstar Communications, Santa Ana, California USA.
2. Snyder, Randall A. and Gallagher, Michael D. Wireless Telecommunications Networking with ANSI-41 Second Edition; McGraw-Hill, New York, NY USA; © Copyright 2001 Randall A. Snyder and Michael D. Gallagher.
3. Forecasting SS7 Traffic by Randall A. Snyder; November 1, 2000. Wireless Review, Volume 17, Number 21, Intertec Publishing, Overland Park, KS USA.
4. Gallagher, Michael D. and Snyder, Randall A. Mobile Telecommunications Networking with IS-41; McGraw-Hill, New York, NY USA; © Copyright 1997 Michael D. Gallagher and Randall A. Snyder.
5. IS-41/GSM Interoperability by Randy Snyder; December, 1995, Cellular Networking Perspectives, Cellular Networking Perspectives, LTD, Calgary, Alberta, Canada.

### Citations

1. Method and Apparatus for Routing Short Messages, US Patent #6308075, Issued October 23, 2001.
  2. Mediation Software for Delivery of Interactive Mobile Messaging and Personalized Content to Mobile Devices, Patent Application # 20020120779, August 29, 2002.
  3. Automatic In-Line Messaging System, US Patent #6718178, Issued April 6, 2004.
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4. Method and System for Wireless Instant Messaging, US Patent #7058036, Issued June 6, 2006.
  5. United States Court of Appeals for the Ninth Circuit. Satterfield v. Simon & Schuster, Inc. No. 07-16356, D.C. No. CV-06-02893-CW Opinion. Appeal from the United States District Court for the Northern District of California. Opinion by N.R. Smith, Circuit Judge. Filed June 19, 2009.

**EXHIBIT B**

**Randall A. Snyder**  
**Curriculum Vitae**

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**Litigation Support Experience**

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*Expert Engagement:*

Type of Matter: Washington Consumer Protection Act, RCW 19.86 and RCW 80.36.400 related to unfair business practices and unlawful cellular telephone calls  
Law Firm: Williamson and Williams Law  
Case Name: Kids Northwest v. First Data Corporation  
Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Ongoing  
Date: 2013

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to short message service (SMS) technology  
Law Firm: Heyrich Kalish McGuigan, PLLC  
Case Name: Gragg v. Orange Cab Company, Inc., et al.  
Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Ongoing  
Date: 2013

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to short message service (SMS) technology  
Law Firm: Wooten, Kimbrough & Normand, PA  
Case Name: Murphy v. DCI Biologicals, LLC  
Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Ongoing  
Date: 2013

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to unlawful cellular telephone calls  
Law Firm: McGuire Law, P.C.  
Case Name: Murray v. Bill Me Later, Inc.  
Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Ongoing  
Date: 2013

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to short message service (SMS) technology  
Law Firm: Kazerouni Law Group, APC  
Case Name: Sherman v. Yahoo! Inc.  
Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Ongoing

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**Randall A. Snyder**  
**Curriculum Vitae**

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Date: 2013

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to short message service (SMS) technology  
Law Firm: George Rikos Law  
Case Name: Van Patten v. Vertical Fitness  
Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Ongoing  
Date: 2013

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 and California Business and Professions Code § 17200 class action related to short message service (SMS) technology  
Law Firm: Milberg LLP  
Case Name: D'Agostino v. Jesta Digital, LLC (dba Jamster)  
Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Ongoing  
Date: 2013

*Expert Engagement:*

Type of Matter: Misleading advertising provisions of the Competition Act regarding premium rate content via SMS technology  
Law Firm: Canadian Department of Justice – Competition Bureau  
Case Name: Commissioner of Competition v. Rogers Communications Inc., Bell Canada, Telus Corporation, and the Canadian Wireless Telecommunications Association  
Services Provided: Testifying expert for plaintiff  
Disposition: Ongoing  
Date: 2013

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 and Restrictions on Telemarketing, Telephone Solicitation, and Facsimile Advertising 47 C.F.R. § 64.1200(d)(3) class action related to unlawful cellular telephone calls  
Law Firm: Burke Law Offices, LLC  
Case Name: Benzion v. Vivint, Inc.  
Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Ongoing  
Date: 2013

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to unlawful cellular telephone calls  
Law Firm: Lemberg & Associates LLC  
Case Name: Rutigliano v. Convergent Outsourcing, Inc.  
Services Provided: Testifying expert, expert reports for plaintiff

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<b>Randall A. Snyder</b> <b>Curriculum Vitae</b>
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Disposition: Ongoing  
Date: 2013

*Expert Engagement:*

Type of Matter: Intellectual property (patents) related to short message service (SMS) technology and mobile banking  
Law Firm: Panovia Group LLP  
Case Name: N5 Technologies, LLC v. Capital One, N.A., et al.  
Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Ongoing  
Date: 2013

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 and California's Unfair Competition Law, Cal. Bus. & Prof. Code § 17200 class action related to short message service (SMS) technology  
Law Firm: Hartmann and Kananen  
Case Name: Baird v. Sabre, Inc.  
Services Provided: Testifying expert for plaintiff  
Disposition: Ongoing  
Date: 2013

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to short message service (SMS) technology  
Law Firm: Kazerouni Law Group, APC  
Case Name: Emanuel v. The Los Angeles Lakers, Inc.  
Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Dismissed  
Date: 2013

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to short message service (SMS) technology  
Law Firm: Kazerouni Law Group, APC  
Case Name: Barani v. Wells Fargo Bank, N.A.  
Services Provided: Testifying expert for plaintiff  
Disposition: Ongoing  
Date: 2013

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to short message service (SMS) technology  
Law Firm: McGuire Law, P.C.  
Case Name: Smith v. Microsoft Corporation  
Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Ongoing

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Date: 2013

*Expert Engagement:*

Type of Matter: Intellectual property (patents) related to wireless calling party identification technology  
Law Firm: K&L Gates LLP  
Case Name: Cequent Inc. v. Apple Inc.  
Services Provided: Consulting expert for plaintiff  
Disposition: Settled  
Date: 2013

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to short message service (SMS) technology  
Law Firm: Keogh Law, Ltd.  
Case Name: Wanca v. LA Fitness International, LLC  
Services Provided: Testifying expert, expert reports, depositions for plaintiff  
Disposition: Ongoing  
Date: 2013

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to unlawful telephone calls  
Law Firm: Donald A. Yarbrough, Esq.  
Case Name: Mais v. Gulf Coast Collection Bureau, Inc.  
Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Settled  
Date: 2013

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to unlawful calls  
Law Firm: Donald A. Yarbrough, Esq.  
Case Name: Manno v. Healthcare Revenue Recovery Group, LLC  
Services Provided: Testifying expert, expert reports, depositions for plaintiff  
Disposition: Settled  
Date: 2013

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers  
Law Firm: Law Office of Scott D. Owens, Esq.  
Case Name: Wojcik v. Buffalo Bills, Inc.  
Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Ongoing  
Date: 2012 – 2013

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*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers

Law Firm: Law Office of Scott D. Owens, Esq.

Case Name: Keim v. ADF Midatlantic, LLC (Pizza Hut)

Services Provided: Testifying expert for plaintiff

Disposition: Ongoing

Date: 2012 – 2013

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to short message service (SMS) technology

Law Firm: Liner Grode Stein Yankelevitz Sunshine Regenstreif & Taylor LLP

Case Name: Connelly v. Hilton Grand Vacations Company, LLC

Services Provided: Consulting expert for defendant

Disposition: Ongoing

Date: 2012 – 2013

*Expert Engagement:*

Type of Matter: Intellectual property (patents) related to short message service (SMS) technology and multimedia message service (MMS) technology

Law Firm: Baker Botts LLP

Case Name: Intellectual Ventures LLC v. AT&T Mobility LLC, et al.

Services Provided: Consulting expert for defendant

Disposition: Ongoing

Date: 2012

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers

Law Firm: Edelson McGuire, LLP

Case Name: Lee v. Stonebridge Life Insurance Company

Services Provided: Testifying expert, expert reports for plaintiff

Disposition: Settled

Date: 2012

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to short message service (SMS) technology

Law Firm: Kirby Law Group

Case Name: Agne v. Papa John's International, Inc., et al.

Services Provided: Consulting expert for plaintiff

Disposition: Settled

Date: 2012

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*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action and NY GBL 399-P class action related to unlawful calls  
Law Firm: Bellin and Associates LLC  
Case Name: Tipoo v. Enhanced Recovery Company, LLC  
Services Provided: Testifying expert, consulting expert, discovery motions for plaintiff  
Disposition: Ongoing  
Date: 2012

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to unlawful calls  
Law Firm: Burke Law Offices, LLC  
Case Name: Bailey v. Household Finance Corporation, et al.  
Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Undisclosed  
Date: 2011 – 2012

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to short message service (SMS) technology  
Law Firm: Burke Law Offices, LLC  
Case Name: Annoni v. FYISMS.com, LLC  
Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Undisclosed  
Date: 2011 – 2012

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers  
Law Firm: KamberEdelson, LLC  
Case Name: Schrock v. Wenner Media LLC  
Services Provided: Consulting expert for plaintiff  
Disposition: Undisclosed  
Date: 2011

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers  
Law Firm: Summit Law Group  
Case Name: Kramer v. Autobyte, Inc. and B2Mobile, LLC  
Services Provided: Consulting expert for defendant  
Disposition: Settled  
Date: 2011

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*Expert Engagement:*

Type of Matter: Intellectual property (patents) related to wireless location based services (LBS)  
Law Firm: Mintz, Levin, Cohn, Ferris, Glovsky and Popeo PC  
Case Name: Emsat Geolocation Technology, LLC v. CellCo Limited Partnership (dba Verizon Wireless), et al.  
Services Provided: Consulting expert, USPTO affidavits for patent reexamination for plaintiff  
Disposition: Undisclosed  
Date: 2010 – 2011

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to unlawful calls  
Law Firm: Keogh Law, Ltd.  
Case Name: Griffith v. Consumer Portfolio Services, Inc.  
Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Undisclosed  
Date: 2010 – 2011

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to unlawful calls  
Law Firm: Keogh Law, Ltd.  
Case Name: Dobbin v. Wells Fargo Auto Finance, Inc.  
Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Dismissed  
Date: 2010 – 2011

*Expert Engagement:*

Type of Matter: Intellectual property (patents) related to short message service (SMS) technology  
Law Firm: Nelson Bumgardner Casto PC  
Case Name: Celltrace LLC v. AT&T Inc., et al.  
Services Provided: Consulting expert for plaintiff  
Disposition: Undisclosed  
Date: 2010

*Expert Engagement:*

Type of Matter: California Constitution, Article VI, § 10, class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers  
Law Firm: KamberEdelson, LLC  
Case Name: VanDyke v. Media Breakaway, LLC  
Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Settled  
Date: 2009

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action

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Law Firm: related to unlawful calls  
 Gordon & Rees LLP  
 Case Name: Allen v. Rickenbacker Collection Services  
 Services Provided: Consulting expert for defendant  
 Disposition: Undisclosed  
 Date: 2009

*Expert Engagement:*

Type of Matter: Intellectual property (trademarks) related to short message service (SMS) technology

Law Firm: Fish & Richardson P.C.  
 Case Name: Cricket Communications, Inc. v. HipCricket, Inc.  
 Services Provided: Testifying expert, expert reports, depositions for plaintiff  
 Disposition: Undisclosed  
 Date: 2008 – 2009

*Expert Engagement:*

Type of Matter: California Constitution, Article VI, § 10, class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers

Law Firm: KamberEdelson, LLC  
 Case Name: Albrecht v. mBlox, Inc., et al.  
 Services Provided: Testifying expert, expert reports for plaintiff  
 Disposition: Settled  
 Date: 2008 – 2009

*Expert Engagement:*

Type of Matter: Class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers

Law Firm: KamberEdelson, LLC  
 Case Name: Walker v. Motricity, Inc.  
 Services Provided: Testifying expert, expert reports, depositions for plaintiff  
 Disposition: Settled  
 Date: 2008

*Expert Engagement:*

Type of Matter: Class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers

Law Firm: KamberEdelson, LLC  
 Case Name: Rynearson v. Motricity, Inc.  
 Services Provided: Testifying expert, expert reports, depositions for plaintiff  
 Disposition: Settled  
 Date: 2008

*Expert Engagement:*

Type of Matter: California Constitution, Article VI, § 10, class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers

Law Firm: KamberEdelson, LLC  
 Case Name: Reed v. Sprint Nextel Corporation

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Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Settled  
Date: 2008

*Expert Engagement:*

Type of Matter: Class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers  
Law Firm: KamberEdelson, LLC  
Case Name: Paluzzi v. CellCo Limited Partnership (dba Verizon Wireless) and mBlox, Inc.  
Services Provided: Consulting expert for plaintiff  
Disposition: Settled  
Date: 2008

*Expert Engagement:*

Type of Matter: Class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers  
Law Firm: KamberEdelson, LLC  
Case Name: Nava v. Predicto Mobile, LLC  
Services Provided: Consulting expert for plaintiff  
Disposition: Settled  
Date: 2008

*Expert Engagement:*

Type of Matter: Class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers  
Law Firm: KamberEdelson, LLC  
Case Name: McFerren v. AT&T Mobility, LLC  
Services Provided: Consulting expert for plaintiff, settlement agreement  
Disposition: Settled  
Date: 2008

*Expert Engagement:*

Type of Matter: California's Unfair Competition Law, Cal. Bus. & Prof. Code § 17200 class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers  
Law Firm: KamberEdelson, LLC  
Case Name: Guerrero v. MobileFunster, Inc.  
Services Provided: Consulting expert for plaintiff  
Disposition: Settled  
Date: 2008

*Expert Engagement:*

Type of Matter: Computer Fraud and Abuse Act, 18 U.S.C. Article § 1030, class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers  
Law Firm: KamberEdelson, LLC  
Case Name: Gray v. Mobile Messenger Americas, Inc.

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<b>Randall A. Snyder</b> <b>Curriculum Vitae</b>
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Services Provided: Consulting expert for plaintiff  
Disposition: Settled  
Date: 2008

*Expert Engagement:*

Type of Matter: Class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers  
Law Firm: KamberEdelson, LLC  
Case Name: Goddard v. Google, Inc.  
Services Provided: Consulting expert for plaintiff  
Disposition: Settled  
Date: 2008

*Expert Engagement:*

Type of Matter: Class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers  
Law Firm: KamberEdelson, LLC  
Case Name: Duffy v. Nevis Mobile, LLC  
Services Provided: Consulting expert for plaintiff  
Disposition: Settled  
Date: 2008

*Expert Engagement:*

Type of Matter: Class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers  
Law Firm: KamberEdelson, LLC  
Case Name: Criswell v. MySpace, Inc.  
Services Provided: Testifying expert, expert reports for plaintiff  
Disposition: Settled  
Date: 2008

*Expert Engagement:*

Type of Matter: Class Action Fairness Act of 2005, 28 U.S.C. §§ 1332, 1453 and 28 U.S.C. § 1367(a) class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers  
Law Firm: KamberEdelson, LLC  
Case Name: Bradberry v. mBlox, Inc.  
Services Provided: Consulting expert, damage estimates for plaintiff  
Disposition: Settled  
Date: 2008

*Expert Engagement:*

Type of Matter: California Constitution, Article VI, § 10, class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers  
Law Firm: KamberEdelson, LLC  
Case Name: Ayers v. Media Breakaway, LLC  
Services Provided: Testifying expert, expert reports for plaintiff

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<b>Randall A. Snyder</b> <b>Curriculum Vitae</b>
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Disposition: Settled  
Date: 2008

*Expert Engagement:*

Type of Matter: Intellectual property (patents) related to wireless location based services (LBS)  
 Law Firm: Hahn Loeser & Parks, LLC  
 Case Name: Emsat Geolocation Technology, LLC v. CellCo Limited Partnership (dba Verizon Wireless), et al.  
 Services Provided: Consulting expert for plaintiff  
 Disposition: Undisclosed  
 Date: 2008

*Expert Engagement:*

Type of Matter: Class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers  
 Law Firm: Blim & Edelson, LLC  
 Case Name: Valdez v. Sprint Nextel Corporation  
 Services Provided: Consulting expert, damages estimate for plaintiff  
 Disposition: Settled  
 Date: 2007

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 201 class action related to short message service (SMS) technology and unlawful charging of cellular telephone customers  
 Law Firm: Blim & Edelson, LLC  
 Case Name: Bradberry v. T-Mobile USA, Inc.  
 Services Provided: Testifying expert, expert reports, numerosity for class certification for plaintiff  
 Disposition: Settled  
 Date: 2007

*Expert Engagement:*

Type of Matter: California Computer Crime Law, Cal. Pen. Code § 502 and California's Unfair Competition Law, Cal. Bus. & Prof. Code § 17200 class action related to short message service (SMS) technology  
 Law Firm: KamberEdelson, LLC  
 Case Name: Abrams v. Facebook, Inc.  
 Services Provided: Testifying expert, expert reports for plaintiff  
 Disposition: Settled  
 Date: 2007

*Expert Engagement:*

Type of Matter: Telephone Consumer Protection Act (TCPA), 47 U.S.C. § 227 class action related to short message service (SMS) technology  
 Law Firm: Blim & Edelson, LLC  
 Case Name: Satterfield v. Simon & Schuster, Inc.  
 Services Provided: Testifying expert, expert reports for plaintiff

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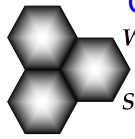
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Disposition: Settled  
Date: 2007 – 2009

*Expert Engagement:*

Type of Matter: Intellectual property (patents) related to short message service (SMS) technology  
Law Firm: Paul Hastings LLP  
Case Name: TeleCommunication Systems, Inc. v. Mobile365, Inc.  
Services Provided: Testifying expert, expert reports, depositions, in-court testimony for defendant  
Disposition: Settled  
Date: 2007

EXHIBIT C



Wireless  
Research  
Services

Wireless Research Services, LLC  
Rate Sheet January 1, 2013

## Wireless Research Services, LLC

### 2012 Rate Sheet

ITEM	FEE
Expert Witness Consulting, Expert Reports	\$400 per hour
Depositions, In-court Testimony	\$450 per hour
Required Travel, Lodging, Board and Administrative Expenses	Billed at Actual Cost No Charge for Idle Travel Time
Non-refundable Retainer at Time of Engagement	\$2,500